100

EXCEPTION PROCESSING MECHANISM

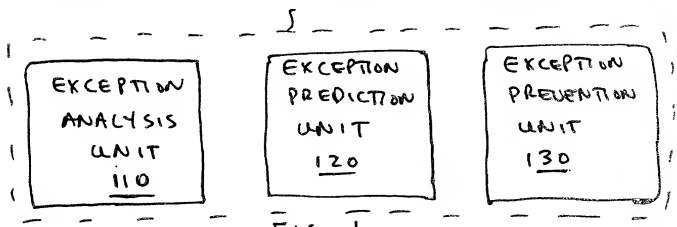

FIG. 1

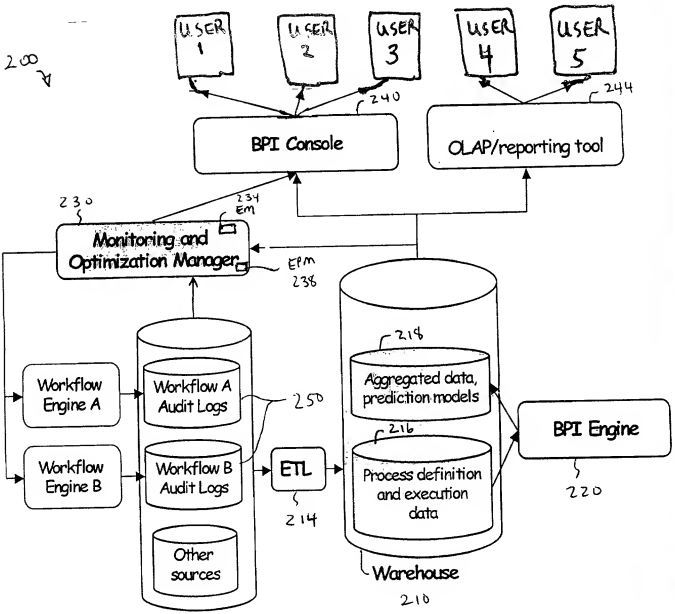

FIG. 2

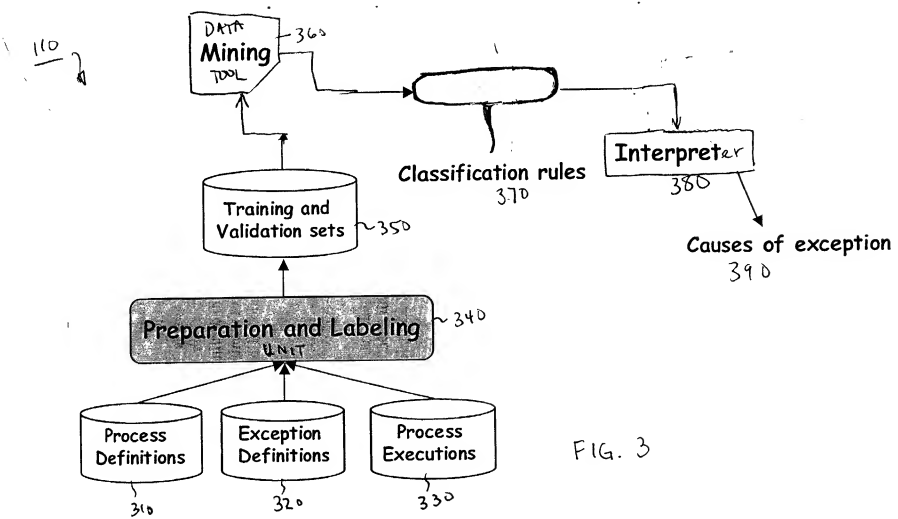
110
DATA Mining TOOL
360
Classification rules
370
Interpreter
380
Causes of exception
390
Training and Validation sets
350
Preparation and Labeling UNIT
340
Process Definitions
310
Exception Definitions
320
Process Executions
330

FIG. 3

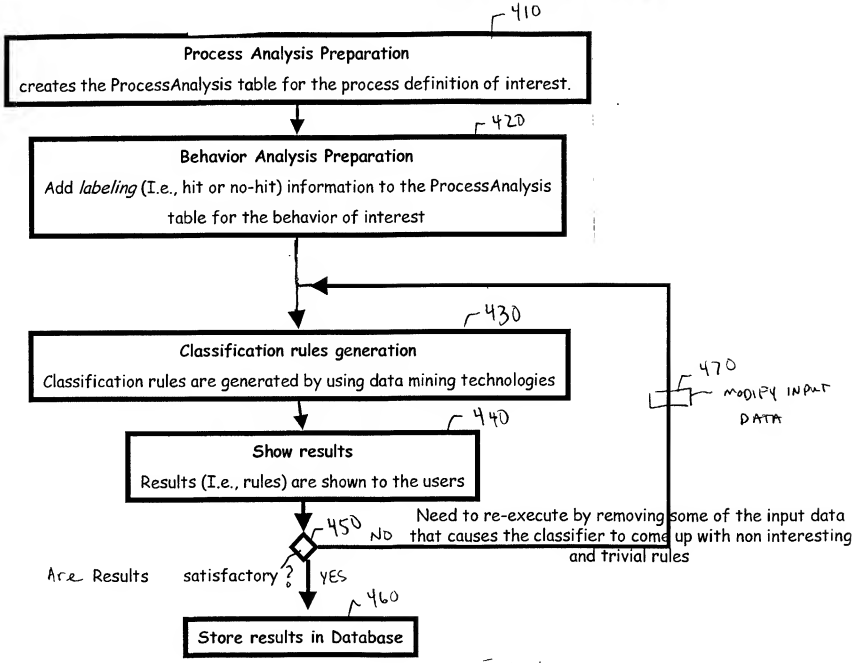
410
Process Analysis Preparation
creates the ProcessAnalysis table for the process definition of interest.
420
Behavior Analysis Preparation
Add *labeling* (I.e., hit or no-hit) information to the ProcessAnalysis table for the behavior of interest
430
Classification rules generation
Classification rules are generated by using data mining technologies
440
Show results
Results (I.e., rules) are shown to the users
450
Are Results satisfactory ?
NO
YES
Need to re-execute by removing some of the input data that causes the classifier to come up with non interesting and trivial rules
470
MODIFY INPUT DATA
460
Store results in Database

FIG. 4

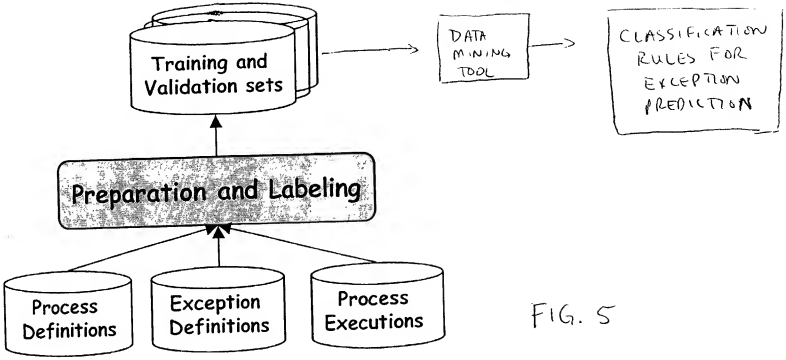
Training and Validation sets
DATA MINING TOOL
CLASSIFICATION RULES FOR EXCEPTION PREDICTION
Preparation and Labeling
Process Definitions
Exception Definitions
Process Executions

FIG. 5

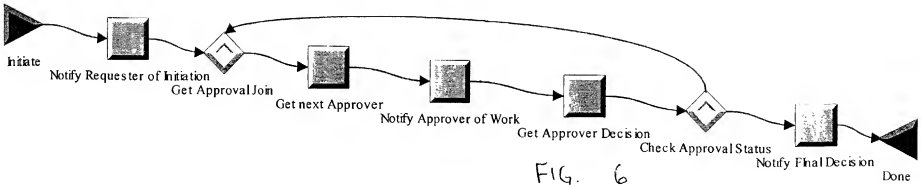
Initiate
Notify Requester of Initiation
Get Approval Join
Get next Approver
Notify Approver of Work
Get Approver Decision
Check Approval Status
Notify Final Decision
Done

FIG. 6

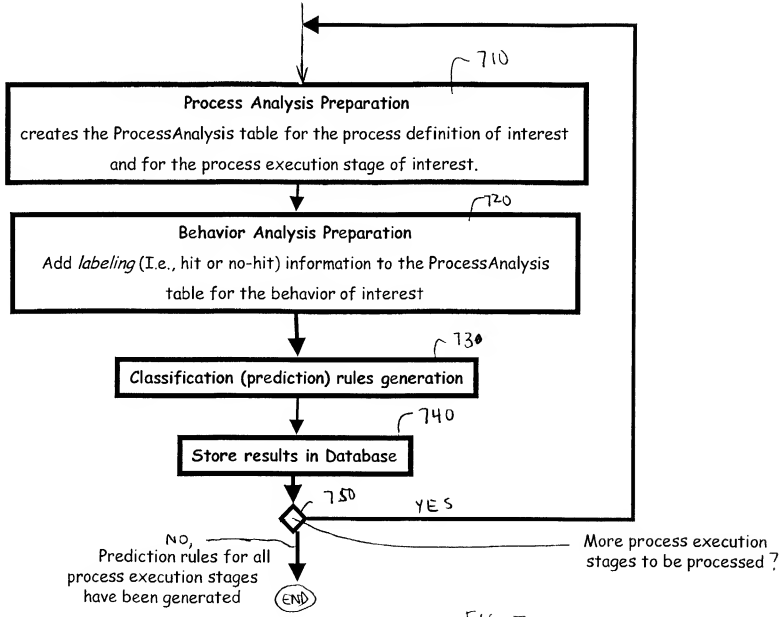
710
Process Analysis Preparation
creates the ProcessAnalysis table for the process definition of interest and for the process execution stage of interest.
720
Behavior Analysis Preparation
Add *labeling* (I.e., hit or no-hit) information to the ProcessAnalysis table for the behavior of interest
730
Classification (prediction) rules generation
740
Store results in Database
750
YES
More process execution stages to be processed ?
NO,
Prediction rules for all process execution stages have been generated
END

FIG. 7